

WEEKLY EDITION

OF THE



PUBLISHED BY

THOMAS G. NEWMAN,
EDITOR AND PROPRIETOR,

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APICULTURAL NEWS ITEMS.

WISE AND OTHERWISE.

Our friends sometimes do us more damage than our enemies.

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

Sagacious men do not become discouraged at small losses, but prepare their business for an increase on more systematic management.

Mr. F. Cheshire delivered a lecture under the auspices of the "British Institute of Agriculture," on April 13, 1885, at the Theatre in South Kensington, London, on "Honey—its Production and Storage."

Mr. James B. Mason, Mechanic Falls, Maine, has sent us his 48-page Catalogue of Bee-keepers' Supplies. Though it is, perhaps, the last one to be issued this season, it is one of the nicest in its mechanical appearance.

Do not forget to give the flower beds attention this spring. They will amply repay the little trouble and care by their rich perfume and generous spread of gorgeousness. The bees will revel among them and grant generous returns.

The "British Honey Company," of London, is expected to be of great advantage to both the producers and consumers of honey in Britain, affording a ready market for the former, and protecting the latter from imposition, by the nefarious schemes of adulterators.

S. McLees, May, Mich., has sent us a reversible-frame device. It is very simple, consisting of a piece of bent wire in the center of each side-bar, which holds the frame in the hive, and the top and bottom-bars being alike, the frames can be inverted at the pleasure of the apiarist.

Two Honey Merchants—R. A. Burnett and Bond & Pearce—were "burned out" last Sunday night, and several firemen were crushed beneath the falling roof. As the stock of honey was light and kept in the basement and store, their losses on honey will be very light, in all probability.

Bee-Keeping; Plain and Practical: how to make it Pay, by Alfred Rusbridge. This is the title of a new English book of 144 pages, nicely printed, with an illuminated cover, and illustrated throughout. Mr. Rusbridge writes with the pen of a Master, detailing his practical advice in every chapter.

Short Articles are more acceptable than long ones, and do more effective work. A short article has twice the chance of prompt publication that a long one has, and ten times the chance of being read. What we all want is short, meaty articles. That is, say as much as possible in few words. Boil it down.

It is estimated that there are about 3,000,000 of colonies of bees in the United States, and the annual yield of honey is said to be about 120,000,000 of pounds; but last year's short crop did not exceed one-half that amount of honey. About one-third of the honey produced is "in the comb," and two-thirds of it is extracted.

The American Apiculturist for April has not yet made its appearance. Mr. Locke writes us that it is "delayed," and that the "cause will be explained soon." Perhaps the explanation may be found on page 286. Any bee-paper unconnected with the sale of bee-keepers' supplies will find an up-hill business, to say the least.

It is a trite remark that "He who stops to pick a flaw in others' knitting-work drops many stitches in his own." It is often better to let an error pass than to exercise undue ambition to criticise everything and every body. Remember that all we do, write or say may also be criticised, and all have need of the kind indulgence of friends to cover up many a fault.

In Germany, teachers employed by the Government travel from place to place, to give instructions in bee-culture, and in the villages an important organization is the bee-club, under the direction of which exhibitions are given and prizes are awarded. It is said, also, that the German rural school-master is examined in bee-culture before he is given his diploma.

Mr. F. L. Dresser, of Detroit, Mich., sends us the following item, and enquires: What importance do you attach to it? "A mountain of pure honey, estimated to be 150 feet deep and 20 feet wide, is situated in the bosom of a noted peak in San Bernardino County, California." We published it some years ago, and asked the best apiarists of California if there was any truth in it; we were informed that it was pure fiction.

Hermaphrodite Bee.—Mr. F. Bechly, Searsboro, Iowa, has sent us a bee, with this remark: "What is it—a drone or a worker?" We sent it to Prof. Cook, and here is what he says about it: "The bee has the head, mouth-parts, eyes, antennae, thorax, legs and wings of a worker-bee, and the abdomen and reproductive organs of a drone. So it is really a drone. This is one of the so-called hermaphrodites—not a real hermaphrodite, as such an animal has both sexes complete in the one body; whereas this insect is only functionally a drone, while it is in some respects like a worker. I have had a good many such specimens. Such abnormal development is often found among higher animals—even as high as sheep, cattle, etc."

A large demand for bees has sprung up on account of the losses in some localities. Those who have good stock and make it known by judicious advertising, now find ready sale for them. Though the losses are heavy, in some cases, energetic men do not become discouraged; disasters give them fresh nerve for new achievements, and more systematic work.

Don't Disturb the Bees.—The "Indiana Farmer" gives this caution: "With new honey and pollen coming in at a rapid rate, one is inclined to want to see what is going on inside the hive, and while a few examinations each week may not injure the bees, it is a better plan to give them time without too much interruption. The brood is easily chilled and the hives cool off very quickly while standing open. With the bees confined to what frames they can cover nicely, and with plenty of stores in close proximity to the brood-nest, but little now is to be done at this time except to wait until they grow stronger."

On Wintering, Hibernation, etc. Prof. A. J. Cook sends us the following items: "Mr. Thielmann, on page 265, gives us some very excellent points. I have noticed the constant motion of bees in a cluster in winter. The bees, though, when wintering best, are comparatively quiescent, and are by no means dormant, as are true hibernating animals. Disturb a hibernating animal and it only rolls up the tighter; disturb a bee, and it prepares to show flight, and will even take wing when it is very cold. In sooth, bees do not hibernate. Mr. T. asks how bees can be kept from breeding? Very easily—keep away all pollen. It looks now as if dampness and ventilation of our cellars were of little account, if we will only keep the temperature right, and see that the bees have enough and proper food."

A New Bee Plant is thus described by the "American Agriculturist" for May: "It would, perhaps, be more accurate to say, a new use for an old plant, as a correspondent of the "The Garden" (London, England) recommends the well-known and popular Siebold's Stone-crop (*Sedum Sieboldii*), as a plant to be grown for bee-pasture. We do not remember having seen any of the *Sedums* mentioned by our apiarists as of value in furnishing either pollen or honey. This Japanese Stone-crop is perfectly hardy, at least near New York, and is one of the most ornamental of the large genus to which it belongs. Its numerous stems, sometimes a foot long, are trailing, or almost prostrate. On this account it is often grown in hanging baskets, and in pots and pans; it is more frequently seen as a house-plant than a hardy one. It has several excellent qualities for a bee-plant, being easily propagated, and thriving in poor soil; it is also a capital rock-plant, and endures the longest drouths without apparent injury. Its clusters of purplish pink flowers are produced at the end of each stem in the autumn months, and last a long time. Its late blooming particularly commends it for apiarian use, as it comes at a season when honey-yielding flowers are scarce. The plant is kept by florists generally, and may be propagated by breaking up the plant and setting out the stems singly, or the stems may be cut into pieces two inches or less long, and rooted in the usual manner."



WITH
REPLIES by Prominent Apiculturists.

Producing Honey in Sections.

Query, No. 58.—What is the best method of securing surplus honey in sections during the honey season?—J. B.

PROF. A. J. COOK answers as follows: "I am best pleased with 1-lb. sections in Heddon crates, with or without separators, as the skill of the apiarist warrants."

G. M. DOOLITTLE says: "I use side-storing in connection with top-storing, believing that I secure enough better results by so doing, than by using only top-storing, to pay for all extra expense and have a margin for profit."

G. W. DEMAREE answers as follows: "Properly-made cases to hold the sections, and so arranged that they may be 'tiered up' at will; a good article of thin foundation filling each section, and doing everything at the right time, gives the best results in my locality."

DR. G. L. TINKER replies thus: "I think that the nicest comb honey and the most of it is secured in section-cases operated by the 'tiering-up' system, without separators, and arranged for continuous passage-ways from the brood-combs to the sections."

Wide Frames or Cases?

Query, No. 59.—Which is preferable, wide frames or cases for holding sections? How should each be managed?—J. B.

G. M. DOOLITTLE replies as follows: "So far, I prefer wide frames, even if many bee-keepers call them 'things of the past.'"

W. Z. HUTCHINSON replies thus: "If no separators are used, cases are preferable; if separators are wanted, wide frames, one tier of sections high, are preferred. The 'tiering-up' plan is advisable when either is used."

PROF. A. J. COOK remarks thus: "I do not think that any one who has used the crate or case would ever return to or be satisfied with wide frames."

JAMES HEDDON replies as follows: "As each system of surplusage possesses advantages that another does not, 'which is best' will depend upon the operator and locality, to a great extent."

G. W. DEMAREE replies thus: "First, cases to hold sections are much ahead of wide frames, so far as ease of manipulation is concerned, as the best modern hive is ahead of the old straw skep. Second, see answer to 58."

DR. G. L. TINKER answers thus: "Section-cases are preferable under

any circumstances, but they should not be too large if used without separators. A case 9 inches wide and 17 or 18 inches long is large enough for any colony where 'tiering-up' is practiced."

Prevention of Robbing.

Query, No. 60.—What is the best method to prevent bees from robbing? I have tried smoking them every 2 or 3 hours, but it does no good.—W. A.

DR. G. L. TINKER remarks thus: "Cover the hive with a sheet, or carry it into a cellar."

G. M. DOOLITTLE replies as follows: "Take every precaution against the possibility of robbing. If this is done, nothing but very weak colonies will be liable to be robbed. If from carelessness robbing is started, I put the robbed colony into the cellar for 3 or 4 days until the mania is past."

G. W. DEMAREE says: "Covering the hive with a wet sheet, and in bad cases piling some wet brush over the entrance to the hive, is the best remedy I know of. It has never failed to discourage the 'robbers.' Smoking is a disadvantage."

JAMES HEDDON answers as follows: "No, 'smoking' is of little avail. A bunch of wet hay at the entrance, and close contraction of the same, are both good, and prove efficient, if the robbing has not progressed too far; but when it has, carry the robbed colony into the cellar, and leave it until the habit is broken, and then return it just before the bees cease to fly. Keep its hive-entrance contracted to about $\frac{1}{2}$ of an inch. It is also well to contract the brood-chamber to the capacity of the colony."

W. Z. HUTCHINSON replies thus: "Contract the entrance, cover it with dry hay or straw, and then put dampened straw over this."

DADANT & SON answer thus: "To keep a colony from robbing, move it from its stand and put the robbed colony in its place. Do not leave any honey exposed, or any weak colony with too much entrance-room and too much honey in the hive. When you manipulate your hives, if robbers are about, be prompt, and in closing the hive, throw a bunch of blue-grass over the entrance, keeping it there a couple of hours."

PROF. A. J. COOK remarks thus: "Always feed at nightfall; never spill any honey; in late autumn never work except under a bee-tent, and keep all colonies strong; then the robbing will never occur. If they get to robbing, close the hive-entrance to within $\frac{1}{2}$ of an inch, and if that does not suffice, carry the luckless colony into the cellar—a thing that I have never had to do."

The Premium List of the County Fair at Burlington, Iowa, is received. It will be held Sept. 14-18, 1885. Seventy dollars in premiums are offered for bees and implements used in bee-keeping.

Convention Notices.

The Bee-Keepers' Association of Central Illinois will meet at Bloomington, Ill., on July 15, 1885, at 10 a. m.
Wm. B. Lawrence, Sec.

The Hancock County, Ohio, Bee-Keepers' Association will meet at 9 a. m., in Findlay, Ohio, at Mr. Bradnor's, on the Lima road, on May 16, 1885. S. H. Bolton, Sec.

The Southern Wisconsin Bee-Keepers' Association will meet in the Court House, at Janesville, Wis., on Tuesday, May 12, 1885, at 10 a. m.
JOHN C. LYNCH, Sec.

The Progressive Bee-Keepers' Association of Western Illinois will meet in Bushnell, Ill., on Thursday, May 7, 1885. Let every bee-keeper who can, be present and enjoy the meeting.
J. G. NORTON, Sec.

The Willamette Valley Bee-Keepers' Association will hold its second meeting at La Fayette, Oregon, on the third Tuesday in June, 1885. All who are interested are invited to attend.
E. J. HADLEY, Sec.

The Mahoning Valley Bee-Keepers' Association will hold its next meeting: Newton Falls, Ohio, on Thursday, May 28, 1885.
E. W. TURNER, Sec.

The Central Michigan Bee-Keepers' Association will hold its spring Convention at Lansing, Mich., in the State Capitol Building, on Tuesday, May 12, 1885, at 9 a. m.
E. N. WOOD, Sec.

The Texas State Bee-keepers' Association will be held on Thursday and Friday, May 7 and 8, 1885, at the apiary of Judge W. H. Andrews, at McKinney, Tex. All interested in the advancement of apiculture, are earnestly requested to be present and make this a memorable meeting of the Association.
W. R. HOWARD, Sec.

The Northern Ohio Bee-Keepers' Association will hold their annual meeting in the Council Chamber, at Norwalk, O., on Saturday, May 9, 1885. Subjects of immediate practical value will be discussed. Officers will be elected for the ensuing year. No one engaged in the production of honey can afford to be absent.
H. R. BOARDMAN, Sec.

The next annual meeting of the Keystone Bee-Keepers' Association will be held in the Court House in Scranton, Pa., at 10 a. m. and 1.30 p. m. on May 12, 1885. At the morning session, after the President's address, which will include a report as delegate to the Bee-Keepers' Congress at the World's Fair in Feb. last, the annual election of officers will take place. While the Association is but just commencing its third year, we congratulate ourselves in having a working membership of over 50; yet there remains much to be accomplished, and we trust that all who keep bees, whether for pleasure or profit, will attend this meeting.
ARTHUR A. DAVIS, Sec.

To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices: Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark ⊙ indicates that the apiarist is located near the centre of the State named: ⊙ north of the centre; ⊙ south; ⊙ east; ⊙ west; and this ⊙ northeast; ⊙ northwest; ⊙ southeast; and ⊙ southwest of the centre of the State mentioned.

For the American Bee Journal.

Best Way to Make a Nucleus.

16—G. M. DOOLITTLE, (40—80).

On page 344 of the BEE JOURNAL for 1883, I told the readers how I had tried all the then known plans of making nuclei, none of which suited me on account of so many of the bees going back to the colony from which they were taken. Where an apiarist has two apiaries several miles apart, bees can be brought from the apiary farthest from home with which to form a nucleus, so as to be a success every time. But as all do not have such an apiary, and there is much trouble about the plan, to those who do have it is quite an object to have a plan by which a nucleus can be formed when and where the apiarist wishes. To accomplish this object, I studied out the plan of caging a frame of hatching brood, as given on the page above referred to, and, by putting a virgin queen two or three days old, into the cage, I had a plan that has worked much better than any that I had previously tried. However, in some cases this plan partially failed, as the bees in the hive in which the caged frame was placed would partially desert one side of the cage so some of the hatching brood would become chilled, while again some would worry and try to get out until at the end of five days a portion of the newly hatched bees would be dead upon lifting the frame from the hive, at the time of placing it where it was to stay.

At the same time that I was practicing the plan described on page 344 (1883), I was also trying another plan which was at first designed for the safe introduction of virgin queens, to do which I proceeded as follows: I made a box by taking two pieces of wood 6x6x $\frac{1}{4}$ inches, and two other pieces 12x6x $\frac{1}{4}$ inches, the latter being nailed to the former, which made a box 10 $\frac{1}{2}$ inches long by 6 wide by 6 deep, without sides. I next got two pieces of wire-cloth 12 inches long by 6 inches wide, one of which was nailed permanently to one side of the box, while the other was left so it was removable at any time. In the top of the box was bored a large hole into which a large tin funnel (such as is used by those selling bees by the

pound) could be inserted. Near one end I bored a $\frac{1}{4}$ -inch hole through which I could put in a virgin queen as soon as the bees from a nucleus were shaken through the funnel into the box. The box was then placed in a dark cellar until night, when it was put over the combs of the nucleus from which the bees were shaken, when the removable side of the box was taken off and the bees allowed to return to their combs during the night.

In this way I thought to introduce and get a virgin queen to laying in two or three days after I had sold a laying queen from a nucleus, which, in turn, could be sold and another introduced in like manner, thus making it profitable to rear queens at the low price of \$1 each. But I soon found that not more than one queen out of three thus put into the box would be accepted by the bees, while those which were accepted were so slow in getting fertilized (some requiring ten or more days), that I became disgusted and went back to the cell-plan.

In one of these experiments I took the bees from a full colony to see if I could succeed better, but they killed the virgin queen almost as soon as I put her into the cage. Just then I was called away, so I hastily placed them in the cellar and left them. When I returned towards night, I thought I would see if I could form a nucleus of them, by placing a frame of brood and one of honey in an empty hive and turning them upon it. Accordingly I rigged the hive as above. Before I had all completed it was nearly dark, so I felt sure that I could succeed, as no bees could get back home until morning. Before sunrise the next morning, I saw that these bees had not clustered on the brood at all, but had crawled all over the hive, many of them being outside from which place they were flying for home. Upon going to the hive from which they came, imagine my surprise to find that they were being treated as strangers, some even being killed, so that not one was allowed to enter the hive. Suffice it to say that all were lost and killed, but from it I learned one thing, which is, that bees confined in a small space with a different queen from their mother, whether dead or alive, would be disinherited if kept in such a space for eight or more hours.

Soon after this I had a queen sent me very unexpectedly, and as I did not value her very highly, I thought to form a nucleus with her, and resolved to try the caging of bees with her. After getting the bees into the cage, I feared to let her in with them, so I waited a couple of hours, at which time I found the bees in great agitation from knowing that they had no queen with them. I now let the queen run in through the small hole, when a more happy lot of bees was never seen. These bees were found compactly clustered in the top of the box the next morning, when they were hived on two frames of brood and soon built up into a colony. From all of the above I learned the follow-

ing, which I believe to be the best known plan of forming nuclei:

Procure a box and funnel, as described above, and go to any hive that can spare from it, from a tea-cupful to a quart of bees, according to the size of the nucleus desired; take out a frame or frames having bees on the combs (be sure you do not get the queen), and place it on the outside of the hive. Give the frame several sharp knocks with a little stick, to cause the bees to fill themselves with honey, and when so filled shake as many bees down through the funnel into the box, as you wish in your nucleus. Take out the funnel and close the hole, when you will put the frame from which you shook the bees, back into the hive and close it. Now take the box of bees to the cellar, or a darkened, cool room, and leave them two or more hours, when you will give them (a laying queen) any poor queen you care little for, or a good one if you choose.

To put the queen in, put the box down suddenly, so that all the bees will fall to the bottom, when the queen is allowed to run in through the small hole. I generally form the nucleus about 1 p. m., and let the queen in at 3 p. m. Early the next morning, take a frame having a very little brood in it, and one with honey, and place in a hive where you wish the nucleus to stay, using a division-board to contract the size of the hive. Now, hive the little colony from the box the same as you would any swarm, and they will go to work immediately. In two or three days form another nucleus in the same way, and when you are ready for the queen, go to this last made nucleus and get this same queen to use for the next, which is to be made from the bees in the box, and in this way keep on forming nuclei as long as you wish them. In this way I made 3 queens form 60 nuclei last season. After the queen is taken away from the first formed nucleus, to form the second, the nucleus is to be treated the same as any queenless nucleus is treated, and when virgin queens are introduced there need not elapse more than a week before the nucleus will have a young laying queen.

There are three reasons for using a laying queen in forming the nucleus; the first of which is that the bees will always accept her and behave just as you wish them to; second, this queen will furnish all the eggs that the nucleus can care for during her short stay, so they are well supplied with young brood at the outset; and third, a laying queen can be taken from the nucleus sooner by the above plan, as where a virgin queen is used to form the nucleus, such queen is exceedingly slow about becoming fertilized. In conclusion I will say that I know the plan will work if followed as I have given directions, for I used it all last season and during the latter part of 1883.

Borodino, ⊙ N. Y.

The spring meeting of the Cortland Union Bee-Keepers' Association will be held in Cortland, N. Y., on May 12, 1885.
W. H. BEACH, Sec.

For the American Bee Journal

The Use of Drone-Traps.

CHAS. DADANT & SON.

Mr. Alley, on page 214, seems to dismiss the subject of drone-traps, on discussion; we are willing to drop it also, but before doing so we wish to call the attention of the readers to some of his assertions.

He says: "Messrs. Dadant & Son could do with fewer men in their apiary if they used drone-traps." By turning to page 820 of the BEE JOURNAL for 1884, the readers will see that Mr. McDaniel has done the greater part of the work on some 450 colonies of bees in our apiaries last year; also on page 68 of the present volume, that one man can easily take care of 5 to 7 apiaries. What led Mr. Alley to think that we employ many men in our apiaries, is the expression "our men," which we used on page 165. Indeed, we have employed many men in our apiaries, but not many at one time, except during the extracting season.

Mr. Alley says that "a hive can be more easily and better ventilated when the trap is used." What do the readers say? He also says that drones reared in worker-cells are worthless. Our experience goes to prove that they are as useful as small males are with large females. He says that if our neighbor had used drone-traps, not one of our queens would have mated with his drones. Indeed; but if our neighbor had been intelligent enough to buy drone-traps, he would have just as well prevented the rearing of black drones, and then would have had no need of drone-traps. He says that foundation sagging makes drone-cells. It does, but sagging is caused usually by excess of heat, and plenty of ventilation will prevent this.

Mr. A. gives eight reasons to prove the usefulness of a drone-trap as a queen-trap to prevent swarming, among which he says that the apiarist can go from home with no fear of losing his bees. This is correct; but supposing a queen is caught in the trap in trying to swarm, how will she be released from the trap unless the apiarist looks at each trap every day? And yet Mr. Alley says that the trap needs no attention oftener than once a month. What do the readers say? And if young queens are reared in a colony that tries to swarm, and they try to go with the swarm, can they go through the drone-trap? If they can, then the swarm is lost if the apiarist is absent. If they cannot go through the drone-trap, how are the young queens to be fertilized unless the bee-keeper knows the day of their bridal flight and removes the drone-trap?

Those swarms that "decamp to the woods," as Mr. Alley says, "leaving the hive in which they have just been placed," are nearly always second-swarms that have a virgin queen, and she will either be unable to go and mate, on account of being stopped by the drone-trap, or else her small size will enable her to go through the

drone-trap and escape with the swarm.

To sum up the drone-trap as a queen-trap: If the young virgin queens are stopped by the drone-trap, it prevents them from taking their bridal flight. If they are not stopped by the drone-trap, swarms with young queens cannot be controlled, by the drone-trap.

Hamilton, Ills.

For the American Bee Journal.

Wabash County, Ind., Convention.

The Wabash County Bee-Keepers' Association met in the Court House at Wabash, Ind., on April 11, 1885. The question, "How should colonies be examined, and how often?" was discussed as follows:

Mr. Maurer stated that he examined his bees once a week during the working-season, and thought that no harm came from frequent handling. He has racks on the sides of the hives on which to hang several of the frames, in order to give room to examine the other frames. He makes a thorough examination of each colony and notes down its condition. Mr. Miller thought that by proper attention and training, bee-keepers could tell the condition of the bees by simply passing in front of the hives and watching the movements of the bees. President Hess opens the hives whenever there appears to be anything wrong, and applies the remedy as soon as possible. He does not disturb his bees at all during the winter. Mr. Zimmerman said that in large apiaries visited by him in Ohio, last fall, the bees were handled every few days. Mr. Whitlow does not handle his bees often unless he finds something wrong. He rakes out the dead bees once a week during the winter; otherwise he does not disturb them. Mr. Miller thought that colonies could be disturbed too often, especially during the best honey-flow. Mr. Brewer thinks that a practical bee-keeper can generally tell what condition his bees are in without opening the hives. If a colony is queenless, it will seldom be seen carrying in pollen, while those in good condition will be carrying it in lively. When he finds a colony that he thinks is queenless, he opens the hive, notes their condition, and gives them either a queen or unsealed brood. Mr. Lowery could tell by passing the hive, when a colony is troubled with moths. Mr. Martin thought that bees might be handled too much, but he did not regard several times a week too often. Mr. Singer said that if he found the bees running about on the alighting-board of the hive, he concluded that they were queenless; or if immatured bees appear at the entrance of the hive, there is chilled brood, or moths at work. He also read an essay on "Spring Management."

Mr. Cripe read an essay on "Apiculture." President Hess wanted to know how to feed artificial pollen in early spring. Mr. Brewer said that he feeds it on a board with cleats nailed around it to prevent the wind

blowing the pollen off, inclining the board towards the south.

The following officers were elected for the ensuing year: President, Alex. Hess; Vice-President, Joel Brewer; Secretary, John J. Martin; Treasurer, H. C. Whitlow.

The reports of the mortality among bees during the past winter were next listened to as follows: Mr. Brewer said that he put into winter quarters 60 colonies, and now but 3 are living. Mr. Aaron Singer had 26 colonies, only one of which is alive. Mr. J. C. Zimmerman lost 30 out of 40 colonies. These, of course, were the heaviest losers, but others also reported a decrease. Mr. Whitlow was the exception; he put 26 colonies into winter quarters and lost but one. To sum the whole matter up, 318 colonies were put into winter quarters by those present, and only 113 are now alive.

In the discussion under the head of "Miscellaneous," at the afternoon session, reasons were given for the great losses sustained. The President attributed the trouble to the want of proper ventilation of the hives and long-continued cold weather. Messrs. Brewer and Singer thought that their colonies were greatly decreased in numbers by the close proximity of cider-presses, in which thousands of their bees were destroyed, thus sending the colonies into winter quarters too weak to withstand the severe and protracted winter weather. After a very general interchange of opinions, the majority did not seem satisfied that the true reason had been found, and proposed to continue their investigations; but nearly all know that their bees are gone, and they are casting about for ways and means to prevent a like catastrophe in the future.

At the request of Mr. Cripe, it was decided to hold the next meeting at North Manchester, on Saturday, Oct. 10, 1885.

J. J. MARTIN, Sec.

For the American Bee Journal.

Advantages of Reversing Combs.

W. H. STEWART.

Of late the reversing of combs has been treated of quite extensively in the BEE JOURNAL, and it appears that the most of the thought and experiment has been confined to the reversing of brood-combs and sections; while little or nothing has been written on the advantages that may be gained by reversing the combs kept in the brood-chamber and used for extracting.

One advantage to be gained by reversing the brood-combs, is getting the combs built solid to the bottom-bar of the frame. This may be done without reversing the comb, by simply leaving off the bottom-bar for the first year; the bees will then build the combs down within bee-space of the bottom-board, and finish off the lower edges of the combs with a thick, bold round, but they will not attach them to the bottom-board; and as the frames are calculated for a bottom-bar to be nailed on the lower

ends of the end-bars, a double beespace is found between the end-bars and the bottom-board. Thus, as the combs are built down to within beespace of the bottom-board, they are found to extend the depth of one beespace below the end-bars; then, if it be desired to use a bottom-bar, a straight edge may be laid even with the lower ends of the bottom-bars, and with a thin, sharp knife the combs can be trimmed so as to give them a square (lower) edge that will fit even and snug to the bottom-bar, as it is nailed on, and the bees will make all fast in a few hours. Thus the combs are in their natural position, and the frames completely filled.

Another advantage which is gained by reversing brood-combs, is clearing them of honey stores that is generally found in the upper part of such combs, and in the way of the queen when she desires to extend the area of brood. But this may be accomplished as effectively by uncapping such stores, and at the same time trimming the combs down to within brood-comb thickness (say $\frac{3}{8}$ of an inch), and placing the combs within $\frac{3}{8}$ of an inch of each other, on returning them to their places in the hive. Give bees room for storage above, and they will forthwith carry the honey from the lower to the upper set of combs, and the queen will deposit eggs in the thus emptied cells. If these combs are to ever remain in the brood-chamber, I can see no good reason why they should be reversed; but if they are to be in the brood-chamber for extracting combs, then they should be reversible.

This brings us to the use, or benefit, of reversing combs that are used in the second and third stories for extracting. I would say that by having such combs reversible, we may do without that nuisance—a queen excluder.

Instinct directs the bee to deposit honey stores in the upper portion of the comb, and to do the work of breeding in the lower part; in order to occupy as nearly the entire space above as possible, the cells in the upper part of the combs are extended to a greater depth than are the lower brood-cells; it appears that combs that are more than $\frac{3}{8}$ of an inch thick are unfit for worker-brood, and that the queen will not attempt to fill a comb with eggs that is $1\frac{1}{4}$ or $1\frac{3}{4}$ inches thick.

In building combs in the upper story, it is also found that the bees are inclined to build the cells deeper above, and more shallow below; thus, as the queen, in the height of the breeding season, seeks more room, she reaches the lower edges of the upper combs having cells of proper depth for brood, deposits eggs in those cells as they are returned from the extractor, and when we go again for another load of honey, on the next round for extracting, we are disgusted to find the lower portion of our surplus combs full of eggs and young brood. Although it may be desirable to have breeding go briskly on at such times, if it can be confined to its proper compartment, yet such breed-

ing in the surplus combs is a nuisance; and thus the invention of that failure—the queen-excluder.

Since I have used the extractor, I have had much trouble with this breeding in the second, and even the third stories of the hive. During the summers of 1882 and 1883, I adopted the plan of giving the weakest colonies all combs that were thus filled with brood; but in doing so, I was deprived of the use of many choice combs for extracting, which I was only able to replace by beginning anew with frames filled with foundation, and this, of course, was a drawback to honey-gathering. This work, it is true, was a great help to the weak colonies for the one season, but when the next season's breeding came on, then $\frac{3}{8}$, or perhaps $\frac{1}{2}$ of such combs were found with cells too deep for breeding, and had to be taken away or cut down, and altogether there was a loss.

In the spring of 1884 I made arrangements to reverse all surplus combs as soon as I found that the queen had begun to deposit eggs in their lower edges. By thus reversing all the combs in the surplus apartment, and driving all the bees down upon the lower set of combs, I was sure that the queen was below; I also found that if she came above again, she did not pass the thick portion of the comb to deposit more eggs in the thin part of the comb that was now near the top-bar, and what little capped brood there was in the comb when reversed, would hatch; then the thin portion of the combs was immediately built out by the bees for storage comb; and before the extracting season was over, I was taking off combs that were 2 inches, and some of them $2\frac{1}{2}$ thick from top to bottom, and I had no further trouble with brood in extracting-combs.

This reversing, of course, gave the cells a downward inclination, but I could see no difference in the rapidity or success of depositing honey in them; yet I think that hereafter I will turn them all back again as fast as I find them so thick that the queen cannot use them for breeding.

Orion, 9 Wis.

For the American Bee Journal.

Ridicule is Not Argument.

WM. F. CLARKE.

The chief object of Mr. McNeill's article on page 233, appears to be to make me look ridiculous; and in all kindness, let me ask, supposing that object to be accomplished, wherein will the interests of apiculture be advanced thereby? I am sorry that the article found its way into print, but since it has, I must claim the right of reply, though I dislike to be compelled to write so much about myself.

In the first place, Mr. McNeill seems to be elated at having succeeded, as he thinks, in holding up a mirror before me, and showing me that I am a consummate dolt. This is the style of some people; if you give them an inch in the way of candid acknowledgement, they will take an ell of credit to themselves, and try to hold you up as a laughing-stock. I have some self-respect left, though I did own that I

wrote rather impulsively when the theory of hibernation first impressed itself upon my mind.

There was no need of all that long homily about my haste in announcing my discovery, becoming a "blind leader of the blind," "slopping over," etc., for what did I do? Advise all bee-keepers to adopt my theory? No. I did but modestly ask every fellow bee-keeper to try one colony according to my method. I simply took all into my confidence, and requested them to aid me in testing a theory which I thought, and still think, had wrapped up in it the secret of successful wintering.

I am accused of having an "ambition to shine among the lights of the bee-keeping world." Well, is that a crime? This ambition, so far as I am concerned, was fully gratified long before Mr. McNeill was heard of as a bee-keeper, and at a time when the lights of the bee-keeping world were more scarce than they are now, and consequently the light they shed was more valuable. This is, perhaps, as good a place as any to notice what Mr. McNeill says at the close of his article about "homage," "anxiety to be crowned," "wearing laurels worthily," and so on. Let me just say, that inasmuch as the bee-keeping world exhausted all its honors on me long ago, there are no more to crave. I cannot attain any higher distinction than that of having been elected President of the North American Bee-Keepers' Association next in order to Langstroth and Quinby, and afterwards elected to a second term. Mr. McNeill "would not pluck one leaf from laurels," etc. Well, he cannot; that is one satisfaction.

There is no ground for ridiculing me on account of the latitude which I have allowed myself in defining hibernation. It is a latitude given by the facts of natural science, and I have already produced adequate authority for the position that hibernation is a matter of degrees. But Mr. McNeill will not allow me to make my own explanations. I am not permitted to speak for myself. He admits that, according to my definitions, there is "no controversy between us," and then proceeds to substitute his definitions for mine, in order to make me out "very illogical!" Who could not be made to appear "very illogical" according to his method? There is no fairness in such tactics.

The climax of Mr. McNeill's attempts to make me look ridiculous is reached in connection with his reference to Webster's definition of the word hibernation. After quoting this, he goes on to say, "If this be the real, scientific definition of the word, Mr. Clarke has truly made a wonderful discovery." Well, it is not the "real, scientific meaning of the word," and I have stated this in the BEE JOURNAL more than once, as Mr. McNeill must be very well aware. There is a popular and a scientific use of the term. Webster gives the popular use of it. Months ago, I quoted from one of the highest authorities in the world, the scientific meaning as follows: "Hibernation is the term employed by naturalists to denote the peculiar state of torpor in which many animals which inhabit cold or temperate climates pass the winter." And now I am represented as having "announced to the world as one of the most important discoveries in apiculture, that bees actually pass the winter in close quarters, or in seclusion!" I never did anything of the kind. What I did was this: I called attention to a fact or principle in bee-life, not unknown, but practically overlooked, in our theories of wintering. I said, there is a state known to the scientific world as "hibernation"—which has degrees, from a kind of semi-torpor to a very profound torpor—into which, or something like it, bees relapse in winter

when the circumstances are favorable. In this condition their consumption of honey is very trifling, and if we can find out how to get them into it, we shall secure their wintering at the smallest possible cost, and without any detriment whatever. Let us try experiments, each with a single colony, to ascertain how to induce this desirable condition.

This is "the head and front of my offending." I might have been a little too sanguine and enthusiastic, but what I have done to deserve the contemptuous treatment Mr. McNeill has given me, I am at a loss to understand.

Speedside, Ont.

[Now, let the foregoing article end this unpleasant and unprofitable controversy. Each disputant has evidently concluded that the language used meant more than the writer designed, and therefore, misinterpreted the INTENTION of the other.

Letters from our subscribers demonstrate that they are TIRED of discussions which are but a "war of words," spiced with "sharp-cutting thrusts," and "offensive personalities." Earnest students of apiculture have no relish for such articles; and as we have concluded not to disgust them any further in that line, we have "dumped" a hundred of such articles into the waste basket, in order to devote the space of the BEE JOURNAL to more profitable reading matter. Correspondents will please "take due notice, and govern themselves accordingly."—ED.]

For the American Bee Journal.

Transverse Passages in Hives.

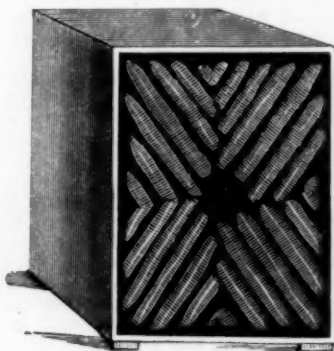
A. WEBSTER.

How shall we arrange the combs in hives to secure cross-passages and free interior communications from comb to comb and from the centre to all points in the hive? I think that this is a question of prime importance, and that a right solution of it will advance bee-keeping as much as any improvement of the past; especially in climates like ours, where, at times, the extremes and sudden changes of temperature make the freest interior communications, and the best facilities for changing the size or location of the bee-cluster, and moving the stores, a necessity. Yet, what point has been so generally overlooked or neglected? Most of those who have attempted to provide for this want, have unfortunately resorted to such unnatural and ineffectual devices as to disgust the bees and their keepers, with "winter-passages."

Most hives are divided into sections by parallel curtains of comb extending nearly through their length and depth, which bee-keepers boastfully say are "as perfect and regular as boards," with no means of cross-communication but by passing over, under, or around the frames, which, in cold weather, is utterly impracticable. The results are well known to be the loss of thousands of colonies every winter, and the injurious depletion of nearly all. Such hives are, in this respect, like dwelling houses with no facilities for passing from one ad-

joining room to the others but by climbing over the partitions through the attic, diving under them through the cellar, or passing around them *via* the outside doors. The improved hives are in this respect even worse than the old box and straw hives, where the bees, in building their combs "at random," often provided partial inter-communications, and occasionally laid out their interior passages in a manner worthy of the imitation of the founders of cities and the admiration of mathematicians. I remember a few such hives, and have heard of others, all of which were remarkably successful as far as I know their history.

As will be seen in the illustration, the combs run from the corners toward the centre of the hive in



transverse directions, and the inner end of each comb meets the side of a transverse one at right angles, with a passage between, that the bees will always keep clear. The harmony of this arrangement, and its perfections and advantages are so obvious that it only remains for me to consider the best means of securing it in all our hives.

In box-hives this can easily be done by fastening starters of comb or foundation to the underside of the top-board wherever we wish combs to be built. Sheets of wired foundation used in the same way would doubtless be a better but more costly and troublesome method. Such box-hives I am confident could be used in an elevated Northern location, like my own, far more successfully than any of the popular hives now in use; and if my bees and hives were destroyed by fire, flood, or other accident, and I were to begin bee-keeping anew, I would adopt such box-hives rather than the others. This is a candid statement of my preference after nearly 30 years of successful bee-keeping, and using movable-frame hives longer than any other man in the State, that I know of.

The adaptation of movable-frames to this arrangement of combs and passages, at first seemed environed with insurmountable difficulties that long deterred me from attempting it; but I am now happy to be able to say that these difficulties, like many others that beset the path of progress, have proved to be more apparent than real, and the result of wrong ideas and false education on our part, and

not inherent in the problem to be solved. I find these frames a little more expensive to make than the Langstroth, equally convenient to manipulate, and besides the advantages of transverse passages, and the shortest direct communication of the combs of the hive with each other and with the centre, they give the largest possible range of brood-comb in hives of compact form radiating directly from the centre, and they enable us to omit outside passages which are unnecessary. They may be used either as hanging or standing frames, and be arranged for either side or top storing, or both combined. For side-storing the surplus receptacles may be placed in direct contact with the ends of the frames on all sides of the hive. It is probable that when arranged in this way the hive will be nearer a non-swarmier when run for comb honey than any other; and by using a brood-nest of a size suited to the capacity of the queen, it will come nearer to realizing the ideal of those bee-keepers who want nearly all the honey stored in the surplus receptacles.

But as concentration of forces is an important principle in war and work, and often the key to success, it is probable that where only short or moderate flows of nectar are expected, or a moderate increase of colonies is desired, a simple top-storing hive will be the best. It may be worked on the "tiering-up" system if needful, and, perhaps, the cases may sometimes be advantageously placed beneath the frames for comb-building, before they are put above to be filled and finished.

South Northfield, © Vt.

For the American Bee Journal.

The Pollen Theory.

J. F. LATHAM, (20—23).

I may err as to what may be termed the direct and indirect causes; but I believe the prompting cause to be the direct cause, and its consequent effects the manifest results of its workings. Pollen is an inanimate substance—"It begetteth not, neither is it begotten"—a substance useful to insects which derive their sustenance from the flowers, and like all other substances that pertain to a corresponding use in the economy of animate life, the results of its use may be beneficial or detrimental. Whether the consumption of pollen by bees in winter confinement be productive of good or evil, the manifest results are simply the consequents of the acts of the agents which prompt the demand for its use.

According to Mr. Heddon's supposition, when pollen is eaten by bees breeding in confinement, if the colony so using it is affected with diarrhea, the act of brood-rearing, not the pollen, might prove the prime cause of the disease. Here the pollen theory assumes a new phase; for should Mr. Heddon prove correct in his conjecture (and I think he is correct), how is he to decide a case where a colony

breeding in confinement is found affected with diarrhea in conditions favorable to good health? Should breeding in confinement prove to be the only cause, pollen is "out of the game;" were pollen the prime cause, "pollen must play alone." Two different prime causes will not produce one like effect; not even by Mr. Heddon's own method of computation.

If pollen is eaten by bees to produce chyme with which to nurture their brood, as Mr. Doolittle suggests, that portion which is not regurgitated as food for the larvæ, or assimilated to sustain their own bodies, must remain in the intestines until it is ejected naturally, and when the retention of the feces is unnatural, whether in bees or animals, the fact that such retention induces disease has been so permanently established that it will not admit of controversy. Now, when the inert portions of sound food—those portions not susceptible to the action of the digestive and assimilating organs of the bee—remain in the intestines in a decomposed condition until diarrhea results from an aggravated organism, the cause must exist in the conditions prompting its use, the act of consuming, and the conditions preventing its healthy discharge. The working agents must be the actual cause; their instruments, auxiliaries. "Were a man killed by a lion," it would not be necessary to go behind the lion to find the prime cause of the man's death, as the evidence of the effects of the lion's acts on the man's body, would be conclusive.

A colony of bees in winter confinement requires food consonant to domiciliary and climatic conditions. If those conditions stimulate an appetite for pollen, they will use it as long as the call continues, and if brood-rearing be one of the acts of a prompting cause, they will use it until stopped by satiety, or a reduction in the temperature of the brood-nest; the last I have tried, and found it to be effectual when outside circumstances permitted the change to be made insensibly. A sudden change will make bad matters worse.

I think that Mr. Heddon is right in admitting pollen to be "no more the cause of bee-diarrhea than whisky is of a whisky drunk." A very sensible admission!!—but Prompting Thirst seems to trouble him to such a degree that he endows him with animation. The source of the trouble appears to exist in the unfortunate construction of his hypothesis—misapprehension. Were man a creature of circumstances—a being destitute of reasoning powers, with a mental capacity on a par with that of the honey-bee—unsusceptible of an intelligent comprehension of the consequence of transgressing natural laws—in short, not to a certain degree "his own moral agent"—no more could be expected of him, than could be expected of an insect; but an intelligent man knows that alcohol will degrade him morally and physically if he drinks it to excess, by indulging a thirst prompted by a call from his bodily organism for a renewal of its stimulus. The

smouldering embers of morbid desires demand food, and if the inebriate's moral sense is not strong enough to master prompting thirst, and "hold the fort," the enemy is pretty sure to get control, and is, consequently, the prime cause of the poor fellow's downfall.

Should the manufacture of alcoholic stimulants be stopped entirely, the desire for intoxicating drinks in that form will be deprived of its food. Remove the pollen from a colony of bees preparatory to their winter confinement, and if pollen is harmful to them at such times, it is out of their reach; but I believe that the prime causes of bad effects, whether it be diarrhea, or others, would still exist in the same colony, and only lack fuel to keep them active.

On page 789 of the BEE JOURNAL for 1884, Mr. Heddon makes the direct statement, that "spring dwindling is bee-diarrhea in disguise." This may be strictly correct, but if a colony of old bees debilitated by long confinement in an impure atmosphere, and destitute of early brood, have nothing to do with it, then I am mistaken in believing that bee-diarrhea is not the *vade mecum* of all habitual bee-diseases.

Cumberland, ? Maine.

For the American Bee Journal.

The Fertilization of Queens.

E. B. SOUTHWICK, M. D.

I have read much about the queen, her fertilization, and her ability to lay drone eggs or worker eggs at will. These points have been discussed. It is too often the case that in excited discussions we are very apt to consider, as the good people of old did, that a little deception or falsifying is excusable, if the glorifying of the truth is the result. There are some theories which are started from the impulse of a thought, that are as false as the prophets that were sent to fool Ahaz; yet the originator will cause every argument to bend to his views until he has become full in the faith that it is correct; thus deceiving himself and, perhaps, others.

The queen is not a perfect queen until she has been fertilized and enabled to lay an egg that can be made to grow into a queen, worker or drone. An imperfect queen can lay an egg that can be nursed into a drone, but that drone cannot be a perfect drone, for the queen cannot impart to her progeny what she does not possess, and, consequently, such drones cannot fertilize other queens. A queen sometimes will not become perfect until the egg-germs have started, and the first laying of such a queen would produce imperfect drones. This is the reason why some colonies rear nothing but drones for a time, and then rear workers. But when the queen has become perfect, she lays perfect eggs as long as she remains perfect, every egg being the same as far as sex is concerned.

Sex in all animals or insects is the consequent of the nourishment, or

situation of the germ in the early part of its growth; or, in other words, sex is caused by mere accident of situation and surroundings. For instance, if a pine tree and birch are planted in the same soil, if the pine possesses the attraction for the elements of the soil, and the birch does not, the pine will grow and increase, but the birch will not, and *vice versa*. So we see that everything is made up by the chance of its surroundings, and the ability of the seed to attract these surroundings; thus, if the surroundings contain more of the elements that go to make up the male, then the male sex is the consequent; and if on the contrary, the female is the result. With this subject the bees are much more familiar than man, for if the queen in her irregular rambles over the combs, when laying, leaves an egg in a drone-cell, and the bees do not want to rear drones, they move the egg to a worker-cell; or if they are found in irregular form, or two or more in a cell, which is quite common, they remove them and place them one in a cell and in order. The bees know whether they want drones, workers or queens, how to arrange places for the egg, and what to surround it with; and they are never fooled if the egg is from a perfect queen.

I have been asked if drones from worker eggs will fertilize queens. I answer no; no more than an egg laid by an unfertilized hen will hatch out a chicken. I have also been asked if I thought that the queen is fertilized more than once during her life. I think that she is; for I can find more reasons for believing that she is, than that she is not. We sometimes find a colony rearing nothing but drones, and in a short time the hive will be full of worker-brood again; in this case I conclude that the queen had lost her perfection and had been re-fertilized. I have had a queen whose eggs would produce very bright yellow bees, all alike, and after a time her bees would be very dark and varied in color. There is in the course of the season, many drones in the apiary, and I have no reason to believe that the queen is not fertilized many times during her life.

Sherman, Mich.

For the American Bee Journal.

Counteracting False Statements.

HOWARD U. ACKERMAN.

I desire to say a word in regard to the best way of overcoming the pernicious influence of the "Prof. Wiley lie," and kindred falsehoods damaging to our chosen pursuit; and I hope that the ideas which I may advance will call forth criticisms either favorable or otherwise, for "in a multitude of counsel there is wisdom."

It is deeply to be regretted, but it is nevertheless true, that there are some people whose chief delight it is to do, in some back-handed way, all the injury they can to the interests of American bee-keepers.

It is a despicable disposition that would knowingly do an injury to

another, through a spirit of revenge, either for a real or fancied wrong. But where in the English language are we to find words strong enough to express our contempt for a person so lost to a sense of honor as to publish a libel upon an entire industry representing an investment of millions of dollars, and the labor of an entire class of hard-working, honest and industrious men and women.

Prof. Wiley's "scientific pleasantries" has, without doubt, cost the bee-keepers of this country, directly and indirectly, a sum of money which, if we could but know the amount, would stagger us. It has cost the loss of a life-giving sweet to hundreds of "glucose syrup" consumers who have been taught by this same mendacious "pleasantries," that all honey should be regarded with suspicion. It has cost a loss of confidence in human nature, and between producer and consumer. It has, in all probability, been one of the causes that have, during the past year, reduced the price of honey to merely a nominal figure, and in face of the fact that but half of a crop was harvested.

On a par with this "pleasantries" are the "pleasantries" (?) of another species of the same kind—the exceedingly virtuous and fair-minded (?) friends of the grape and fruit growers. They regale the reading public through the columns of the newspapers and agricultural periodicals with an account of the great damage done and ravages committed by that "prodigious monster"—the honey-bee—to the fruit interests of the country. Bee-keepers are prone to smile at what they consider the *ignorance* of the writers, but I think that in a majority of cases *malice* would be the proper word to use. Fellow bee-keepers, you cannot afford to let such statements go unchallenged. Depend upon it, they have their influence, when allowed to go uncontroversied.

A bee-keeper reads an article of this kind in some leading newspaper. Watch the smile of but half-concealed disdain that curls his lip as he tosses the paper aside. He knows the article to be an untruth, but frequently fails to realize that thousands of other readers, "the uninitiated," may accept the statement unquestioned. Or, perhaps he arouses himself enough to clip the article out, and sends it to his favorite bee-paper, with a request that it be published. That is better than nothing, to be sure, but it fails to act as an antidote to the poison, for the very simple reason that it fails to reach the affected parts—the readers of the newspaper. Would it not be a more sensible and effective plan to seize your pen and indite a short communication to the periodical in question, pointing out the errors into which their correspondent had fallen, and citing proof and authorities in support of your statements, couching your ideas in such language as not to give offense to the publisher? Nine times out of ten your article will be published, and the damaging statements will have been controverted and disproved.

I think that in this way much good can be done to the interests of the fraternity. What injures one, injures all; what helps one, helps all. Perhaps in no other industry, certainly in no other industry classed as agricultural, are the interests of its members so clearly bound in one common whole. We of all people should learn a lesson of the little denizens of the hive, to work together for the common good, and to resent an injury from outside. If we would counteract the influence of an article which takes for its text, "Bees Injure Grapes," we must meet the question at home in the paper that published it, and prove by convincing argument and statements of facts, that such is not the case, instead of turning our backs, so to speak, and firing our ammunition into space.

North Indianapolis, Ind.

[To counteract the publication of falsehoods, truth should seek the same channel, and award telling blows to the monster. Mr. Ackerman has suggested the right plan, and we hope that it will be followed by all who are able to write an article for publication.—ED.]

Local Convention Directory.

1885.	Time and place of Meeting.
May 7.—Progressive, at Bushnell, Ills.	J. G. Norton, Sec., Macomb, Ills.
May 7, 8.—Texas State, at McKinney, Tex.	W. R. Howard, Sec., Kingston, Tex.
May 9.—Northern Ohio, at Norwalk, O.	H. R. Boardman, Sec., E. Townsend, O.
May 12.—Central Michigan, at Lansing, Mich.	E. N. Wood, Sec.
May 12.—Southern Wis., at Janesville, Wis.	John C. Lynch, Sec.
May 12.—Keystone, at Scranton, Pa.	A. A. Davis, Sec., Clark's Green, Pa.
May 12.—Cortland Union, at Cortland, N. Y.	W. H. Beach, Sec., Cortland, N. Y.
May 19.—N. W. Ills., and F. W. Wis., at Davis, Ills.	Jonathan Stewart, Sec., Rock City, Ill.
May 28.—Mahoning Valley, at Newton Falls, O.	E. W. Turner, Sec., Newton Falls, O.
May 28.—N. Mich. Picnic, near McBride, Mich.	F. A. Palmer, Sec., McBride, Mich.
May 29.—Haldimand, Ont., at Nelles' Corners, Ont.	E. C. Campbell, Sec.
June 19.—Willamette Valley, at La Fayette, Oreg.	E. J. Hadley, Sec.
Dec. 8—10.—Michigan State, at Detroit, Mich.	H. D. Cutting, Sec., Clinton, Mich.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

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Kansas Bee-Keeper.....	3 00..	2 75
The Apiculturist.....	3 00..	2 90
Canadian Bee-Paper.....	3 00..	2 75
The 7 above-named papers.....	7 50..	6 75

THOMAS G. NEWMAN,
925 West Madison Street, CHICAGO, ILL.

SELECTIONS FROM OUR LETTER BOX

Cool and Disagreeable.—I. J. Glass, Sharpsburg, Ills., on April 25, 1885, writes as follows:

My bees came through the past trying winter without the loss of a single colony. My neighbors who gave their bees no attention, have lost the greater part, and in some instances all of their apiaries. This spring I have been feeding my bees outside, but I do not like the plan where there are weak colonies, as those needing the least will get the most, the same as feeding different grades of stock together. It is cool and disagreeable here, and the bees are kept in-doors.

Under the Snow too Long.—10—John Rey, (56—35), East Saginaw, Mich., on April 20, 1885, writes thus:

My bees are to-day carrying in the first pollen of the season; they are in good health, and some of the colonies now have brood in 3 and 4 frames. The past has been a hard winter on bees here, about 70 per cent. of them in this county having died. I have lost 21 colonies out of 56, but then I am not disappointed, for I hear that some have lost all they had. I will start in with 35 colonies this season, and I will get some more if I can, for I have a lot of nice, straight combs on hand, and I want to get them into use as soon as possible. If I do as well with my bees the coming summer as I did last season, I will be well pleased. The cause of my losses was that they were under the snow too long, and some got too warm and started too much brood-rearing; and used up all the honey around the cluster within 2 or 3 inches of it, and then they starved with plenty of honey in the hive; some of them had brood in 3 frames. I made a mistake last fall, by not packing my bees. I let them stand just as they were last summer, but I think that if I had packed them, I would not have lost one colony, for they all had honey enough to carry them through the winter. Next fall I will go to the expense of packing them, and I think that it will pay any bee-keeper to do the same.

Report, from J. E. Pitman, Marlboro, Va., on April 25, 1885:

The losses of bees in the Shenandoah valley were much greater in the winter of 1880-81 than the past winter. From two-thirds to three-fourths of the bees have come through in good condition.

Out of the Darkness.—Eugene Secor, Forest City, Iowa, on April 23, 1885, writes:

I have just removed my bees from the cellar, where they have been for 149 days without a flight, and a part of them had not been looked at in the time. They were wintered entirely on natural stores, with plenty—that is, a good deal—of pollen, and in a temperature so much below "normal," according to the authorities—getting as low as 26° above zero several times, and standing for weeks at 30° to 34°—that I greatly feared the result. Those examined in the winter were very "sweaty," and nearly all are quite moldy this spring. My cellar is quite dry (or at least all but the bee-apartment), as I have a heating furnace in it which was kept constantly "running" for six months, but that it did not affect the bee-room will be seen from the above record of its tempera-

ture. I lost about 30 per cent. of my bees, but not on account of disease; about $\frac{1}{4}$ of the loss was by starvation. The temperature outside, when I removed them, was about 70°, and I assure you they held a "carnival." They will probably bring in pollen in a day or two, but I have seen none yet. Silver maples and poplars are in bloom. The buds and grass are growing so fast that we can almost "hear" them grow. I notice from my "bee-notes" that, last spring, the first pollen was brought in on April 18; in 1883, April 17; in 1882, April 16; in 1881, April 20. The mortality among bees, so far as my knowledge extends, has been considerable. The winter was one of the coldest ever known here. I think that a good warm cellar, or some place guaranteeing like conditions, is the only proper place to winter bees in the far North. We might just as well shelter our favorite cows on the sunny side of a barbed-wire fence, and expect them to go through the winter all right and yield us a handsome profit, as to leave the bees out where for three months it is likely never to thaw, and expect them to come out all right.

Bee-Yards and Bee-Passages.—J. H. Andre, Lockwood, ♀ N. Y., writes as follows on these subjects:

I think that if bee-keepers would try the temperature of their yards where coal-dust, sand, etc., is used on the ground, they would soon discard it in favor of a lawn. I believe there is a difference of 15 or 20 degrees in the temperature of coal-dust or lawn bee-yards; this must make a great difference in the amount of honey gathered during hot weather. I shall never put foundation into frames again without making a hole through the centre of each comb. I know of some colonies that perished during the past winter, that would have come through all right if there had been holes in the combs, or perhaps a space above the frames would have saved them. I also know of some bees that died by having the frames too close, the spaces being so narrow that the bees had no chance to cluster and keep warm. It is my opinion that each frame should be given $\frac{1}{4}$ inches space, and that 3 or 4 of the centre spaces should be $\frac{3}{4}$ of an inch wide during winter.

Honey-Dew and Winter Losses.—30—I. Feasel, (34—58), Bettsville, ♂ Ohio, on April 26, 1885, writes thus:

My observations lead me to believe that honey-dew forms on the top of the leaves during clear nights under certain conditions of the atmosphere. It requires about three clear nights to accumulate sufficiently as to cause the bees to drop in front of the hives, and it remains and accumulates during every clear night until it rains, and then it is all washed to the earth. If it continues cloudy at night, for a week, the bees do not continue carrying in the saccharine matter, as the aphidæ fail to throw off the spray. Last August my bees were working in the southwest, and we had a rain which reached about $\frac{1}{4}$ of a mile north of my apiary, and my bees changed their course and worked north for several days. I have lost nearly all of my bees, having saved only a few of my best colonies and non-swarmers. About Jan. 1, my queens commenced laying (they were on the summer stands), the weather was pleasant, the bees were flying, and they commenced capping their brood. The weather turned cold, the mercury was down to zero, and the bees commenced to eat their brood, even uncapped some brood and sucked the young bees in the cells. In two weeks they had diarrhoea of the worst kind. On Jan. 31, the bees had a flight, and I opened a few hives and found the queens laying. One

colony that had reared a young queen was eating more brood, and had more diarrhoea. I was a firm believer in the pollen theory, but this brood-eating has shaken my faith in it. Ninety-five per cent. of the bees are dead in this locality, the well arranged bee-houses, chaff hives, and cellars having all fared alike.

Report, from David Rowe, Lime Ridge, ♂ Wis., on April 25, 1885:

I commenced the spring of 1884 with 75 colonies of bees, and I obtained 4,500 pounds of extracted honey, the most of which I sold in pails in my home market. I also had 1,000 pounds of comb honey in $\frac{1}{2}$ -pound sections. I sold 15 colonies, and put 160 into the cellar on Nov. 20, 1884. I took them out on April 20, and I found that 30 colonies had died with the diarrhoea. I have lost 18 more up to date, thus leaving 112 colonies which are in good condition. My cellar is very dry, without any ventilation except the outside door. The past has been the hardest winter on bees that we have had for 20 years; some bee-keepers have lost their entire apiaries. Last season we had a big flow of white clover and basswood honey, but no fall honey.

Bees Nearly all Dead.—Fred Bechly, Searsboro, ♂ Iowa, on April 25, 1885, says:

Bees in this neighborhood have nearly all died. I have only 8 colonies left out of 34, and they are so weak that if all were put into one hive, they would make only one good colony.

Bees Filling Themselves with "Fizz."—Dwight Furness, Furnessville, ♂ Ind., on April 27, 1885, writes as follows concerning bees storing weak vinegar:

The following incident from a neighboring apiary may be of interest: There were about 75 colonies of bees in the yard, all blacks, except a half-dozen colonies of hybrid-Italians, and owing to the scarcity of honey during the autumn, robber bees were plentiful and troublesome. Early in October, 1884, an extra strong colony of hybrids discovered a vinegar-keg, that had been filled with sweetened water 3 or 4 days previous, and worked vigorously for several hours carrying off its contents. After the keg had been closed, the liquor continued to leak out around the bung, and the bees appropriated that also. None of the remaining colonies stored any of the liquid. In about two weeks the number of dead bees around the entrance to the hive of this colony, and their peculiar appearance, attracted the attention of the apiarist. Their abdomens were distended to the utmost, and had a black, slimy, almost transparent appearance, the slightest pressure causing them to burst. The fecal mass seemed to be full of solid matter, and resembled the feces of bees suffering from diarrhoea. The hive and combs were not soiled in the least, and the bees left the hive to die, the weather permitting almost daily flights. On Nov. 2, the remaining bees (about half of them had died) were shaken from the combs, the uncapped honey extracted; the combs were then returned, and the colony fed 10 pounds of sugar syrup. No more signs of disease were visible from that time, and the colony came through the winter in good condition. Did the sour liquid cause the bees to eat pollen? or is not the saying wrong, that "You can't load a bee's intestines with fizz?" Is this a case of bacteria? About two-thirds of the bees in this vicinity were lost during the past winter—a "cleaning out" necessary to the prosperity of the business.

Only One Colony Lost.—5—J. P. Moore, (54—53), Morgan, ♂ Ky., on April 15, 1885, writes thus:

The past winter has been a terrible one on bees in this locality, the mortality being greater, I think, than that of 1880-81. I hear of heavy losses on all sides, though I am happy to say that I have met with excellent success, having lost only a 4-frame nucleus out of 54 colonies wintered on the summer stands. This is my first loss in wintering. I have one colony that survived the past severe winter in a "Simplicity" hive, with nothing over the frames but a basswood mat, and the cover of the hive. By some mishap I overlooked this colony last fall, when I was filling the upper stories with leaves. When I raised the cover, in March, and found nothing in the top-story, I was very sorry that I had overlooked them, for I was almost sure I would find them dead; one may imagine my agreeable surprise to find them alive and just "a-booming." I have just examined them to-day, and I found their hive literally running over with bees. They are gathering new honey from the elm. The queen is a large and prolific Italian; the workers are large and fine honey-gatherers. Those who think that the blacks winter better than the Italians, would do well to reflect a little on the matter. I shall run this colony exclusively for honey during the coming season, I think, just to see how much they will gather. I must say that I agree with Mr. Heddon, in regard to combs built on foundation in wired frames; they are nice to look at, and nicer to handle.

Nebraska Law on Foul Brood.—Geo. M. Hawley, Lincoln, ♂ Nebr., on March 16, 1885, writes as follows:

The past has been a severe winter on bees, great losses having been reported throughout this State. I should estimate the loss at two-thirds at least. I clip the following Section from a Bill which was passed by our Legislature the past winter, from the "Nebraska State Journal": "It provides that it shall be unlawful to have in possession bees, brood-comb or honey known to be infected with 'foul brood' or any other infectious disease peculiar to bees or honey, or any hive or other receptacle in which any foul brood, diseased bees or infected honey has been kept. The penalty for violation of this section is a fine of not less than \$10 nor more than \$100 and imprisonment in the county jail not more than thirty days. Any person having such bees, honey or receptacle and failing to destroy it immediately, shall be liable to the same penalty. All persons owning or keeping bees shall cause them to be inspected at least once a year, and procure duplicate certificates as to the condition of the same, one to be kept and one to be filed with the county clerk. If the inspector thinks that the disease or infection can be removed, he shall so certify officially in his certificate of inspection, and the owner may keep the bees for six months for treatment. Otherwise the owner must destroy them if the infection is not removed at the end of thirty days. The Governor shall appoint an inspector in any county, on request of the State Bee-Keepers' Association, or any other persons interested in bee-keeping residing in such county. The inspector shall receive \$2 a day, to be paid by the owner of the bees inspected."

Report, from B. H. Standish, Evansville, ♀ Wis., on April 29, 1885:

Seven bee-keepers who unitedly owned 331 colonies last fall, now have 163; so it will be seen that the loss in this vicinity is more than one-half. Small bee-keepers usually have lost all.

Gathering Pollen.—B. Jenkinson, Brandon, Wis., on April 27, 1885, writes thus:

I removed my bees from the cellar on April 20, having been confined for five months without a flight. They came out in excellent condition. I have kept bees for 7 years, and I never had them look so healthy, and never so populous. I wintered 48 colonies, and I did not lose one; other parties that wintered their bees outdoors lost heavily. One party using Mrs. Cotton's hive lost 25 out of 38, and a number of others have had the same misfortune. My bees have commenced to work on the willow and poplar, and are gathering pollen quite fast.

Wide Frames and Sections.—Dr. C. C. Miller, (200—?), Marengo, Ills., on April 23, 1885, writes as follows:

I cannot say how many bees I will have left, but I think that it will be one-fifth less than last fall. I am ashamed to admit that some starved. In reply to Mr. B. F. Little, page 250, I would say: The 2-inch sections were in wide frames, the others in Heddon supers. He will find the matter more fully detailed on page 212 of the BEE JOURNAL for 1884. If wide frames are used, they should be as wide as the sections.

The Past Season in England.—Alfred Rusbridge, Chichester, England, on April 16, 1885, writes thus:

Last season proved exceedingly favorable for bees in this part of the world, and my apiary of less than 40 colonies yielded me a profit of about \$500 on the sale of honey only.

Report, etc., from Gilbert W. Dunbar, Embden Centre, Me.

The season of 1884 was a very poor one in this part of Maine; but my bees were strong in the spring, and we had quite a good flow of honey from raspberry during the latter part of June and the forepart of July. The result of the season's work was that I doubled my number of colonies and sold an average of \$6 worth of honey per colony, spring count. I have read with interest the articles on hibernation, by W. F. Clarke, and I want to say that I have found 40 or 50 colonies of bees in trees during the past ten years, and I never have found but one old colony. My experience has been that a colony of bees in a tree, unless they find an extra good one, stands a very small chance of coming out alive in the spring; in fact, they hibernate forever.

Never Lost a Colony in Wintering.—R. M. Osborn, Kane, Ills., on April 8, 1885, writes as follows:

The past was a winter that will be long remembered. In this vicinity wheat is badly frozen, peach trees killed, and the rabbits and mice have done a great deal of damage to young fruit trees, hedges and vines, and the bees, where they were not properly cared for, have suffered; the loss is very great in this county. I wintered my 54 colonies on the summer stands, all in double-walled hives with rags packed over them and in the space around the brood-chamber. My hives all front south, and the entrances were closed to 3½ inches. I was careful to keep all the snow and sleet away from the entrances. I have not lost one colony of bees up to the present date. Every colony is busily working on the maple bloom, and all are strong and in splendid condition. The ages of my queens are as follows: Five of them are 4 years old; 20, 3 years; 22, 2 years; and 7, 1 year, and

they are doing good service. I have kept bees for 8 years, and strange as it may seem to some, I have never lost a colony in wintering, and I have never had a case of bee-diarrhea or foul brood. Hive No. 15 is my own make, and is double-walled, the sides and back of the brood-chamber are glass, and I only packed rags on top of the frames; at the back of the hive is a shutter which I could open at any time and see the bees through the glass. The colony, in this hive, wintered splendidly. My brood-frames are all 11 3/4 x 8 1/4 inches, inside measure, and I use only 9 frames at all seasons of the year. Drones are flying to-day, but the weather is cool for this time of year. Zero weather commenced on Dec. 17, 1884, and ended on Feb. 23, 1885; in all we had 23 days when the mercury was below zero. The white and sweet clovers are very promising for a good crop. The ideas advanced by Mr. C. Theilmann, on page 123, exactly coincide with my experience. I have found the substance of his article to be correct—correct so far as I have been able to understand Nature. Nature's works are something that man never can compete with, although man can accomplish, by the help of Nature, many seemingly wonderful things.

Alum in Winter Stores.—J. M. Doudna, (42—42), Alexandria, Minn., on April 20, 1885, writes thus:

My bees came out in good condition without any loss. The cellar was too cold for the papers, but not for the bees. The temperature was from 34° to 38° above zero the most of the time, but it was as low as 22°. Some combs are a little moldy, with very little signs of diarrhea. A few colonies were put into the cellar in October, and they did not have a flight for 173 days; the others were confined only 157 days. There was brood in a few of the hives. Those that were confined the longest, had very little natural stores; they were fed on sugar syrup with one ounce of alum to every 10 pounds of sugar.

Bees in Fair Condition.—F. A. Gibson, Racine, Wis., on April 18, 1885, says:

I have my bees on the summer stands again, and I have 135 left out of 137. They have come through the winter in fair condition, having been confined without a flight from last Thanksgiving day until April 1. About half of my colonies fill 9 spaces in Langstroth hives. I have learned something about bees during the past hard winter, and I now think that my winter losses are over.

Good Success in Wintering.—L. G. Reed, (26—25), Kent, O., on April 20, 1885, says:

At this writing my bees are all right. I lost only one colony, and that died with the diarrhea in March. Several colonies suffered considerably with the same complaint, but with close attention I have got them over the worst, and they are building up fast. I prepared them for winter in a variety of ways, with a variety of stores, and in a variety of hives, all seeming to do about alike—in fact, I consider my success extraordinary.

Report, from J. C. Bale, Hamilton, Ont., on April 23, 1885:

I have been examining my bees to-day, and I found 18 out of 19 colonies dead, 3 having died since the terrible cold snap came to an end. A few of them starved, but the most of them died with the diarrhea, though packed as they were last winter on the summer stands.

So Far a Splendid Season.—Rev. R. C. Bedford, Montgomery, Ala., on April 24, 1885, writes thus:

So far this is proving to be a splendid season for bees. I had 6 colonies in the fall, and I left them right where they had been all summer, with no change except a piece of thicker covering in place of the oil-cloth; they wintered nicely. The spring is very late, with us, but the weather has been most delightful since it fairly opened, and I never saw blossoms so abundant. My first swarm issued on April 10; I have since had 3 others. Mine are almost the only bees in movable-frame hives in all this section of country, and I am doing what I can to introduce them among bee-keepers. I shall sell nearly all of my increase this year for that purpose. Every one seems delighted with the change. I expect, at no distant day, to see this one of the greatest honey-producing sections in the world. My white clover is doing nicely. I had two splendid crops of buckwheat last year, and I have sowed 2 bushels this year; it is now looking well.

Nearly a Total Loss.—Ed. S. Harvey, Cavett, O., on April 30, 1885, writes:

From 90 to 95 per cent. of the bees that were wintered on the summer stands, in this county, have died. I have lost 98 colonies, and have 38 left, but nevertheless I am not discouraged.

Losses are Heavy.—J. B. Mason, (40—80), Mechanic Falls, Maine, on April 29, 1885, writes:

In this locality the losses are very heavy, bees that were wintered on the summer stands in single-walled hives having suffered badly; those in chaff-packed hives have wintered much better. Those wintered in cellars have generally come out in very good condition. The most of my bees were wintered in a cellar where it was necessary to have a fire to keep the temperature above freezing. A pump was in the cellar and a tank of water; it was necessary to pass by the bees several times a day with a light to pump water, and this disturbed the bees, but they came out in the best condition. I removed them from the cellar on April 20, and they brought in pollen on the same day. The first natural pollen was brought in on April 18.

Results of the Winter.—E. Pickup, Limerick, Ills., on April 24, 1885, writes as follows:

My diary shows the number of days when the mercury was down to and below zero, this winter and 1, 2, 3 and 4 winters past, to be respectively about 46, 29, 24, 5 and 34. Colonies unpacked on the summer stands and off of the ground, are nearly extinct; those that were on the ground are better. Some bee-keepers have lost all that were off of the ground, but saved all on the ground. Some of the oldest and best bee-keepers here have lost all. Bees had good flights last fall. There was not much cold weather until about the middle of December, and sudden changes, about the holidays, made the bees uneasy; then set in a long-continued and severely cold spell which did the mischief. My colonies with not the best of honey (a large cider-mill near by), and plenty of pollen, stand thus: Thirty on the summer stands, with wind-break, 2 left; 16 packed on three sides, 8 left; 16 packed all around, no opening in the bottom of the hive, 10 left; and 32 well packed all around and on the top with from 3 to 4 inches of sawdust, and a 2-inch hole in each bottom-board, covered with wire, and straw in under the hives, 30

left. The last plan proved to be the best way for me the past trying winter. I waited about 2 weeks for a favorable time to put the bees out of the bee-house, when April 20 set in warm and still, so I took them out, and I found some good and some dead. I lost about $\frac{1}{4}$, besides the little colonies. Lots of dead bees were on the floor. Some of the hives were too close to the cellar bottom. The entrances were $5\frac{1}{2}$ inches, and all open. Bees that were put out at 9 a. m. marked their new home, found where I had flour, and returned home with their white loads before noon. I was surprised to see it. I have about one-half of my bees left, the combs, boxes and honey, and a winter's experience; I shall try and make the best of it.

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W We want one number each of the BEE JOURNAL of August, 1886—February, 1887. Any one having them to spare will please send a Postal Card. We will pay 50 cents for one copy of each of the two numbers.

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